Cotton Catchment Communities CRC

NSW DEPARTMENT OF PRIMARY INDUSTRIES

COTTON *TALES*

Southern New South Wales

James Hill, Regional Cotton Extension Officer – 6993 1608, 0447 773 791

2008/09
No.6
14/1/09

Season DD Progress

Day degree for the period 25th Sept to 14th Jan 2009

Met site	08/09	07/08	Average DD	C/Shock 07/08 (ave)
Benerembah	1008	1189	971	40 (46)
Hay	1005	1199	1014	36 (42)
Hillston	1096	1250	1070	31 (36)
Whitton	1013	1179	966	39 (46)

Day degree for the period 5th Oct to 14th Jan 2009

Met site	08/09	07/08	Average DD	C/Shock 07/08 (ave)
Benerembah	935	1124	921	34(38)
Hay	934	1131	959	32 (35)
Hillston	1012	1176	1012	26 (29)
Whitton	941	1116	917	33 (38)

Note. Two DD tables illustrating difference in DD for 2 planting dates.

Early Season Disease Survey Data for NSW

The cool, damp conditions experienced at the start of the cotton growing season in most areas, including Sthn NSW, created a good environment for early season diseases in cotton.

The survey results from 2008-09 show the incidence and severity of early season disease in the Lachlan continues to be a major factor in increased seedling mortality and reduced early season vigour.

Thanks to Chris Anderson, NSW DPI, for providing the survey data and summary.

Black Root Rot Summary for Survey 2008-2009

Valley	% Fields	% Plants	Severity (1-10)
Bourke/Walgett	13	2	0.1
Macintyre	60	21	0.7
Gwydir	29	6	0.3
Namoi	100	66	4.0
Macquarie	64	25	1.8
Lachlan	57	18	1.4
Murrumbidgee	0	0	0.0
Season	**52**	**24**	**1.4**

Seedling Mortality Summary for Survey 2008-2009

Valley	%
Bourke/Walgett	27
Macintyre	24
Gwydir	30
Namoi	26
Macquarie	39
Lachlan	29
Murrumbidgee	25
Season	**29**

Wireworm Damage Summary for Survey 2008-2009

Valley	% fields
Bourke/Walgett	13
Macintyre	20
Gwydir	57
Namoi	6
Macquarie	27
Lachlan	29
Murrumbidgee	71
Season	**30**

Other disorders summary

Hormone Damage

Observed at Bourke and in the Gwydir totalling 6% of fields

Fusarium wilt

30% of fields in the Macintyre

Verticillium wilt

20% of fields in the Macintyre, 6% of fields in the Namoi

Chemical burn – fertilizer, herbicide

22% of fields in NSW

Summary

73 fields and 14600 plants were surveyed in NSW. Seedling mortality caused by abiotic and biotic factors including the seedling pathogens *Rhizoctonia solani* and *Pythium* averaged at 29% across the state with the highest levels in the Macquarie valley (39%) and lowest in the Gwydir (24%). The pathogen *Rhizoctonia solani* was observed in 100% of fields. *Pythium* and *Rhizoctonia* were collected from diseased plants across the state. The fungus *Macrophomina phaseolina,* which causes charcoal rot was also collected from diseased plants in a number of fields.

Black root rot was observed in 52% of fields in the state on 24% of plants surveyed. Incidence and severity were highest in the Namoi valley where the disease was present in 100% of fields and on 66% of plants. The disease was also widespread in the Macintyre, Macquarie and Lachlan valleys. This disease continues to spread throughout the state and is locally severe (eg. at one field in the Macquarie, 100% of plants averaging a severity of 9.5/10).

Wireworm damage was locally severe and was associated with wheat stubble. Seedlings were damaged by hormone drift at Bourke and in the Gwydir.

Although very early in the season, Fusarium and Verticillium wilt were clearly present in a number of fields, probably due to the cool wet conducive conditions that have prevailed throughout much of the early season. We anticipate both of these diseases will be highly visible if cool wet conditions persist.

Chemical burn, including fertilizer burn and herbicide damage was present in 22% of fields. Abiotic factors like chemical burn and soil compaction are likely to reduce overall plant vigour and increase susceptibility to pathogen attack.

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